

CURRENT LITERATURE.

An Introduction to the Study of Lichens. By Henry Willey. 72 pp. and 10 plates. Printed for the author, New Bedford, Mass.

No more competent lichenologist could have been found in this country, since the death of Professor Tuckerman, to prepare this introduction to the study of lichens. It is a group beset with great difficulties, and hence discouragements, for the beginner, and this must account, to some extent, for the limited number of lichen students in this country. Mr. Willey has thus done good work in exactly the direction it was needed, and under the guidance and stimulus of this simple introduction the way into this department has been made as easy as was possible. There are six chapters, with the following subjects: On collecting and mounting lichens; The lichen, its structure and organs; The distribution, etc., of North American lichens; The history of lichens; Helps to the study of lichens; and Arrangement of North American lichens. Then follows a supplement giving a list of the names of all published lichens. The ten plates display the structures of the thallus, gonidia, apothecia, spermagones, and pycnides, and end with illustrations of the spores of all the seventy-six genera. We mistake the effect of this pamphlet greatly if it does not very much stimulate the study of this difficult and interesting group in this country. It can be procured from the author for \$1.

Die natürlichen Pflanzenfamilien, nebst ihren Gattungen und wichtigeren Arten insbesondere den Nutzpflanzen, bearbeitet unter Mitwirkung zahlreicher hervorragender Fachgelehrten, von A. Engler und K. Prantl. Royal, 8°. Leipzig: Wilhelm Engelmann.

The first two fascicles of this important work are at hand. Each fascicle is to consist of 48 pp., and it is expected that about sixteen parts will appear yearly, which will complete the work in six or seven years. The first part is to embrace the Cryptogams, and is under the supervision of Dr. Prantl. The second to the fifth parts include the Phanerogams, edited by Dr. Engler. The list of collaborators is very large, and embraces the most eminent German botanists.

The first two fascicles of Part II. treat of Palmæ, by O. Drude (already noticed in this journal, p. 89); Juncaceæ, by Fr. Buchenau; Stemonaceæ and Liliaceæ (in part), by A. Engler. The treatment of each order is very comprehensive. For example, the topics treated under the Liliaceæ are: the most important literature; characteristics; organs of vegetation; anatomy; arrangement and growth of flowers; pollination; fruit and seeds; geographical distribution; affinities; and classification. The latter includes an account of each tribe and genus, with remarks on the principal species. The work is liberally and admirably illustrated. The ninety-six pages now published contain 564 single figures! The very low

subscription price for each fascicle (M. 1.50=35c) makes this one of the cheapest, as it promises to be one of the best, botanical works ever published. It strikes us as unfortunate, however, that the fascicles should be separately paged.

NOTES AND NEWS.

DR. STERNBERG has gone to Rio de Janeiro to investigate yellow fever.

MENYANTHES TRIFOLIATA turns up in Rhode Island this year with trimerous and tetramerous flowers in one raceme.

THE YEARLY increase of cork is said by Gerber to vary from one row of cells in Salix to one hundred rows in Quercus suber.

HARDWICKE'S *Science Gossip* for May has a very interesting description of Australian forests by the editor, Dr. J. E. Taylor.

MANY new and interesting species are being discovered in the Philippine Islands by Dr. Sebastian Vidal, Director of the Botanic Garden at Manilla.

THE catalogue of Rhode Island plants, by Mr. James L. Bennett, is to be published by the Providence Franklin Society, and is understood to be in press.

DR. THEOBALD SMITH, of the Bureau of Animal Industry, Washington, D. C., has just closed a course of six lectures on bacteria before Cornell University.

THE May number of *The Microscope* contains "Staining and mounting plant sections," by C. Wellington, and "The movement of diatoms," by Cornelius Onderdonk.

THE CHEMICAL relations of bacteria is the title of a long and interesting article by Dr. Charles E. Fairman, of Lyndonville, N. Y., printed in the *Medical Register* (Phila.) of April 27.

DR. MANLY MILES has an article in *Agricultural Science* for May on the microbes of nitrification, based upon cultures and experiments which he has been prosecuting for some time.

PROF. BESSEY, in the *American Naturalist* for April, has done a capital thing for botanical students in publishing a list of the best and most accessible manuals in the various groups of plants.

THE Linnean Society has recently elected the following foreign members: Dr. George A. Schweinfurth, Cairo, Egypt; Count H. Solms-Laubach, University of Göttingen; Dr. Melchior Treub, Buitenzorg, Java.

THE SPECIES of Peronosporæ found in Scotland, are enumerated by Dr. J. W. H. Trail in the *Scottish Naturalist* for April. The list gives 1 Pythium, 3 Cystopus, 1 Phytophthora, and 24 Peronospora, being eleven less than the United States' list, published by Dr. Farlow in this Journal, 1884-5.

A HAND-BOOK of the other orders of vascular cryptogams, by Mr. J. G. Baker, is announced in continuation of Hooker & Baker's "Synopsis Filicum." It will include Equisetaceæ, Lycopodiaceæ, Selaginellaceæ and Rhizocarpeæ, in which there are eleven genera and about seven hundred species.